

# MICHIGAN FARMER

## AND STATE JOURNAL OF AGRICULTURE.

GIBBONS BROTHERS, Publishers.

DETROIT, SATURDAY, AUGUST 24, 1889---WITH HOUSEHOLD SUPPLEMENT.

PRICE, \$1 PER YEAR

NUMBER 34

### CONTENTS.

Agricultural.—Senator Ranney and the Cattle Inspection Bill—Crops at Stock Along the Road—Michigan Swine Breeders' Association—A Corn Binder—A Plea for Chicago Dressed Beef—The European Wheat Crop—Transfers of Sheep—Another Great Meeting in Detroit—A Big Business—Sheep and Poultry—Curing Thrush—Horse Gossip—The Farm—How Many Sheep Per Acre?—Potato Blight—Farmers and Millers—Sewage and Manure—Agricultural Items—The Horticultural—South Haven Pomological Society—The Heart and Bigearreus Cherries—The Strawberry Crop—Grapes on the Hudson—Girdled Trees—About Garden Seeds—The Deadly Toad—Tree-Forticulture—Horticultural Items—Aparian—Bee Stings in Medicine—Editorial—Wheat—Corn and Oats—Dairy Products—Wool—Commencement at the Agricultural College—State Board of Agriculture—Fraudulent Importations of Wool—Farmers' Picnic—Michigan—General—Foreign—In the Woods—Upward—The Harvest Moon—Maclean's—Mystery on a Gold Ship—Beneath Him—Where Chocolate Comes From—The Year of Great Distresses—Bill Nye Encouraging the Muses—A Boston Heroine—Racing for Life—Grant as a Wood-Cutter—The Southern Girl—Some Rich Women—Steamship Statistics—Chinese Ladies—Facts—Effects of Smoking—Abyssinian Slave Girls—Jilted by Stewart—A Woman's Courage—New Universal Language—Varieties—Chaff—The Dairy—Profit and Loss in Dairying—Poultry—What Does It Eat—Enlarging in Minnesota—Warm Water for Cows—Veterinarian—Split in a Young Horse—Commercial—
---

### Agricultural.

#### SENATOR RANNEY AND THE CATTLE INSPECTION BILL.

Senator Ranney, of Kalamazoo, whose course in voting against the bill for the inspection of live cattle in the State before slaughter, has subjected him to sharp criticism from many of his farmer constituents, requests us to publish his remarks on the bill that our readers may fully understand his position. We have been too crowded with other matter to do this until now. We wish to be entirely fair with Mr. Ranney, as with all others, and in another column give his remarks upon the bill in full. His arguments read well, but they are based upon false conclusions in several instances.

He starts out by declaring that the bill is an infamous one. Yet it is distinctly in line with bills passed by the Legislatures of this and other States to regulate the transportation and inspection of so-called Texas cattle, which law gives the right to the Governor of this State to shut out Texas cattle entirely when in his judgment it is necessary to protect Michigan cattle from contagion. Does the Senator consider that an infamous bill?

It is also in line with the law which allows the city of Detroit to appoint milk inspectors, who stop vendors of milk on the streets and take a quantity from their cans to analyze, so as to prevent fraud and adulteration. This law has been a great boon to consumers in this city, and under it a number of persons have been convicted and fined. Does Mr. Ranney consider this inspection law infamous?

The cattle-growers of Texas protest against the laws passed in the northern States against the free transit of their cattle, and have the same right to do so as the "big four" had to protest against the passage of the bill to inspect their cattle alive so as to protect the health of the people. But the protest of the "big four" would not have availed them any more than it did the cattle-growers of Texas if they had not taken certain measures, through their agents, to secure votes enough against the bill to defeat it. And we have to-day the singular spectacle of the local butchers of the State being shut out to a great extent from purchasing Texas cattle openly, for fear of spreading disease, while the "big four" can purchase them at will and ship them into the State in the shape of dressed meat. Does the Senator consider this consistent or honest? Does it give the butchers of the State a fair opportunity to compete with the "big four"? Does he not believe that if the cattle-growers of Texas had adopted the same means as did the "big four" that they would have secured the defeat of the bill restricting the importation of their cattle into the State at certain seasons?

The Senator, in referring to the export trade in cattle, says England "is able to raise her entire supply of all meats, and would do so if not interfered with by competition with American meats." In this statement the Senator is wholly wrong. England cannot produce even one half of the meat, butter, cheese and breadstuffs she consumes. Where did the Senator get such information?

Another point: When we export live cattle to England they bring a better price in the market than dressed beef does, and they have always done so. Thus dressed beef has actually cut down the price of American cattle in England at the expense of the American producer. The "big four" can kill out competition from exporters as readily as they can in the case of local dealers. The statement that if dressed beef were not brought into the State local butchers would go to Chicago to buy cattle may be believed by some, but Senator Ranney will

discover, upon inquiry, that this has never been done. The drovers of his county, who weekly visited the farms in search of cattle have been "frozen out," and the feeders of cattle must ship to Chicago, where the "big four" will fix the price, or keep their cattle. There are many farmers in the State with bunches of cattle on hand who cannot get an offer on them. Three or four years ago there would be half a dozen buyers after them every week.

The old argument that it is high priced land which has made cattle-growing in Michigan unprofitable is untrue, because when the western cattle men were producing far more than they do to-day, Michigan feeders were doing well also. The cattle men of the west and southwest are suffering just as badly as are those of Michigan. What competition is injuring them? We were told, three or four years ago, that Michigan lands were too high to raise sheep on; but we doubt if anything on the farm has paid better the past year than sheep. Western cheap lands are just as much used to grow sheep as cattle.

And finally, the Senator should understand that some of the members of the "big four" are the men who have damaged the reputation of American products abroad more than all the other influences combined. They shipped last year so badly adulterated that European nations became suspicious of all American food products. They are selling at last to-day an article which does not even contain a single particle of a hog—a combination of stearine and cotton seed oil. They have cost the farmers of the United States millions of dollars by their dishonest methods, and now they claim the right to feed them with anything in the shape of cattle which can walk to their slaughter houses—in spite of jump jaw, tuberculosis, Texas fever, pleuro-pneumonia, or any other disease to which the bovine race is subject.

**CROPS AND STOCK ALONG THE ROAD.**  
CENTREVILLE, Aug. 17, 1889.  
To the Editor of the Michigan Farmer.  
Leaving Detroit on the 5th inst. we drove north through Mr. Clemens and Lenox at Port Huron, thence westward to Lapeer and then bearing northward through Durand to Lansing and Eaton Rapids to Homer, then westward through Union City, Sherwood and Colon to Centreville, where we arrived on the 17th inst.

Along the road, with scarcely an exception, were very large straw and seemed to be well filled. As far as we have traveled we have never seen better oats than we have found along the route.

We saw no corn worth mentioning until we reached Flint. From there to Bancroft it is a very small crop on an average, although we saw some fair fields. The average is small. As we neared Lansing the corn crop showed better and better, although we did not consider it a full crop until we reached Homer. From Homer to Centreville corn is good and I think a full crop.

Potatoes, well we have not seen very many. I was surprised at the small acreage of potatoes along the road. The condition of potatoes is good where the corn is good, and poor where the corn is light; in fact I do not think the farmers along our route thus far have any more potatoes than they will want for their own use.

Of the wheat crop I have had no means of judging save by the appearance of the stubble, which gives the appearance of a good crop of straw. No great amount of threshing has been done yet, but the machines are now in active operation. We have seen but few beanfields, in fact I think we are not on the bean and potato line.

Hay is a big crop all along the line, and I see a good deal of millet and Hungarian grass growing all along the road; but don't touch any hay with your hands up around from Detroit to Port Huron and Flint, for it is full of Canada thistles.

Stock appears to be in good condition as a general thing, and almost every hotel and livery barn has its lot of horses with heavy, and I had always been of the opinion that heavy horses were limited to the farmers' stables, but I have changed my mind. Almost every little town we pass through has its complement of "trotters," so called, and I firmly believe that the trotting craze in wasting more money and time in Michigan than any other thing except rum. I like fine drivers, but the country seems over-run with little plumes that are no good for practical work on the road or farm. We have seen comparatively few good draft teams, and most of them were in the large towns, and have been bought at high figures.

Cattle, hogs and sheep have not made their appearance in very large numbers, and I think the country is not over-stocked with these animals. But perhaps there is enough while the "Big Four" run Michigan's meat markets.  
CHAS. K. COOK.

Michigan's Swine Breeders' Association.



Spaulding's Patent Corn Binder.

#### A CORN BINDER.

As nearly every farmer in Michigan is interested in the corn crop, anything which promises to increase its value will be sure of attention. In curing corn-fodder, which seems to be more highly appreciated by farmers each year, a great deal of it is rendered worthless by the falling down of the shocks during the fall rains. Many contrivances have been used to make the shocks stand up under wind, but they have been more or less failures or took so much time as to prove too costly. Finally Mr. M. Spaulding, an Iowa Corn farmer, thought out a simple machine, which will bind the corn rapidly into bundles when cut, and so strongly as when put in shocks to defy any less than a cyclone. We give an illustration of this machine, by which our readers can see how simple it is, yet that it is proved a great success is attested by the enthusiastic testimonials of those farmers who had an opportunity of testing it last season. The machine is known as Spaulding's Corn Binder, and is manufactured by the Muir Corn-Binder Co., of Muir, Iowa Co., of which N. B. Hayes is President, J. D. Strachan Vice President, and C. W. French Secretary and Treasurer. Last year 35 machines were made and put into the hands of farmers in this and adjoining States, one being sent to Kansas, and also to Illinois. The results were a great surprise to the Company, for from every point where the machine was used the orders have flowed in until it will require 1,000 to fill their orders. The single machine sent to Kansas has brought in an order for 125 from one man. But let those who have tried it give their opinion of what the machine can accomplish:

IOWA, Mich., April 29, 1889.  
Muir Corn Binder Co.—Gentlemen:—One of your Corn Binders was left at my farm last fall on trial. I used it, and was so well pleased with it that I would pay double the price rather than have my corn without it. I have no hesitation in saying it is the best of the most satisfactory farm implements on my farm. No falling down of shocks. No progressive farmer can afford to be without one.  
A. M. LARRY, Private Judge.

DUNDAS, Ill., Feb. 1, 1889.  
Mont. Spaulding.—Dear Sir:—Having used your patent Shock Squeezer last fall, I will say I believe there is no machine in use that can compare with yours. It fills the requirements in every respect, and is especially necessary in this dry district, as we grow a great deal of the ensilage fodder corn, which stands in the field in shock until used. It is now Feb. 1st, and the shocks stand as they were left when cut, and will remain in good condition as long as one may wish.  
Yours truly,  
D. W. SUTPHIN.

WA-KENNET, Kansas, Feb. 12, 1889.  
Mont. Spaulding.—Dear Sir:—I used your Corn Binder last fall, and I had nearly finished cutting corn before I received it, so it was not paid for itself. The corn tied with the binder is in good condition standing just as it was when first tied. This is something to appreciate in this country, as corn heretofore has all been flat in the field, on account of our hard winds. Your binder is a God-send to us farmers. Respectfully yours,  
W. S. KNAPP.

IOWA, Mich., April 30, 1889.  
Muir Corn Binder Co.—Gentlemen:—Having used your Corn Binder, I cheerfully commend it to farmers generally as being one of the most useful and valuable machines I ever used, for its cost. I intend to have one for each man during the coming corn cutting. It entirely does away with the nuisance of corn falling down after being cut. I feel that too much cannot be said in its favor, and that the inventor and manufacturers are benefactors to farmers as a class.  
B. P. KELSEY.

OKLAHOMA, Mich., Jan. 2, 1889.  
Mont. Spaulding.—Dear Sir:—After having used one of your machines would say no farmer, after using one of these Corn Binders, would part with it for double the price, could another not be had. A boy can operate it with ease, and after the corn is tied with it, it binds clean to cyclones.  
ANSON ORRISON.

Two sizes of the machine are made, one simply a tier, which sells at \$2.50, the other with a horse attachment which costs \$3.50. Certainly cheap enough for every man who grows five acres of corn to afford one. The Company reports orders from Kansas, Missouri, Wisconsin, Ohio, Indiana, and have had to greatly increase their facilities for turning them out. There will be thousands of them in use in the corn-belt within two years, and it is the only machine of the kind in existence.

Now wheat is reported as coming in very slowly. The quality is very variable.

#### A PLEA FOR CHICAGO DRESSED BEEF.

Argument of Hon. Peyton Ranney, of Kalamazoo, Against the Cattle Inspection Bill in the State Senate.

"I desire to make a few remarks on what I consider to be the merits of this bill, but have only little to offer as to its being a health measure, as cunningly but falsely indicated by its title. I believe very much in a law being germane to any subject under consideration, but it is not so with this bill and its title. Its supporters by the title have sought to win the favor of the public by selling under false colors, representing that it is for the protection of health that all this stir is made, and any one knows how sensitive the public mind is in any matter pertaining to the question of health, even when it is a matter of life and death, and a suspicion is aroused, whereas its real object is to advance the price of beef in Michigan, which, before I am through, I shall endeavor to prove is a mistaken idea. I am disgusted with some newspapers and individual discussions in favor of the bill, who have carried it to such an extreme that suspicion is cast upon the quality of beef, so much so that even strong stomachs now hesitate and weaken. It would not sharpen appetite nor aid digestion to have printed on our bill of fare for a Christmas dinner Acetonepyosis Soup (better known as Lung-Jaw), Tuberculosis Roast, Pneumonia Contagiosa Sirloin, or Protoplasma Corned; yet these cattle diseases have been continually discussed by the supporters of the bill and by circulars and pamphlets left on every Senator's desk. Paid men are also here circulating through both houses in the interest of this infamous so-called health bill.

"What I have thus far said will have a bearing on what I shall say later on, touching the question of beef exportation. The beef problem as it is now presented is simply a business matter, and it is not unlike any other of our products of which we have a surplus for export.

"Values must be based on supply and demand. There is no truer commercial theory than that. Farmers, manufacturers and dealers in any line of trade must submit to this inevitable law. I remember well when quiet New England was started at the first shipment of Illinois corn to her markets. She considered herself sufficient to supply her home demand, and she was able to do it at the then prevailing prices. She tried many ways to hold the situation. Among them I well remember she tried to depreciate the quality of western corn, the same as is now sought to do with western beef. New England was alarmed, but soon learned that she could not compete with western corn, and was compelled to abandon the industry. She has passed the same crisis that hangs over Michigan to-day on the beef question. The same law of supply and demand establishes value on Michigan wheat to-day. It is that principle that causes the distressing low prices.

"We have more wheat in this country than is required for consumption here and abroad, and I predict that if the present outlook for the next crop be realized, it will be a calamity to this country in that it would create such an enormous over-production as to imperil our best interests. The beef question as it presents itself to-day is precisely on the same basis of supply and demand. It is an actual necessity that we have an outlet for our surplus, and a continuous one, or we must quit growing more than we can consume ourselves.

"At the present time our exports of beef are one hundred million pounds per annum, and judging from the past there may be expected an increase of ten million pounds per annum, and still enough left at home to carry down prices to such a point that the industry in the State is unprofitable. It is fortunate, indeed, that we have such an outlet, for without it beef would not be worth more than the hides that cover their much slaughtered carcasses.

"Great Britain is our principal receiver, taking nine-tenths of our entire exports. Other European nations having a few years ago, by some pretended prejudice against

American meats, prohibited importation of American pork, which created such a prejudice against all our meats and there is no demand for American beef. It is a well known fact that all nations of Europe have been much annoyed by the exportation of American beef, and for the same reason that Michigan farmers complain of the abundance of western beef, viz: That the European farmer cannot compete with American beef.

"Europe always takes good care of its agricultural interests. For many years all nations except England have levied a tariff on wheat from 15 to 30 cents per bushel simply to encourage the home producer, but England is not a wheat growing country, and hence has no such interest of her own to protect. But it is otherwise as to beef. She is able to raise her entire supply of all meats, and would do so if not interfered with by competition with American meats.

"England has the same tender feeling for her producers that all other European nations have for theirs, and would years ago, have been delighted to protect home industries, by prohibiting importation of American beef, but she has not yet found sufficient reasons to do it and at the same time satisfy the poorer people who are now able to indulge in American cheap beef. Hitherto an attempt to stop importation of our beef would have caused great disturbances in the nation, for the poor man would not have consented to be deprived of the luxury of American beef, but it is my candid opinion that if the United States, State by State, should enact such a law as this bill contemplates, and for the reason given, even the laboring classes of England would be made to lustle it, and cheerfully submit to entire prohibition. I submit that if the States enact such laws as will bring our own meats into disrepute, England would be justified in prohibiting it to her shores, and the poor man would say a glad Amen.

"It makes no difference with England whether the slanderous talk that is made on our beef is true or false, she has thereby accomplished her purpose, viz: created a public sentiment that endorses a prohibition act which she has been anxious for for the past ten years, but not till now been able to bring about and satisfy her people. The matter of exportation of our surplus beef should not be trifled with. I don't believe in handling live animals around a powder magazine, it is a dangerous thing to tamper with, especially when our interests are entirely dependent upon it. Let us place no obstacle in the way of free exportation, and give England no excuse for not receiving any of our products however much she may desire to exclude them.

"I beg of this Senate, and sincerely believe it to be in the interest of the farmer to not meddle with anything that is even detrimental to the free exportation of our beef. I regret that there is scarcely an encouraging word that can be said to the farmer on the beef question. It is utterly impossible for anyone who lands cost, say from \$35 to \$75 per acre to compete with the free-grazing territories of the West, where cattle from calf-hood are grown and fattened for the block at small expense. Those free-grazing territories are immense in their area, said to be one-eighth in size of the United States. Nature makes them to produce as it were manna from Heaven to feed the immense herds that can be made sufficient to feed cheap meat to the civilized world, and such must be the case till the march of progress shall over the plains with cities and villages, unless beforehand by some strange action of the States which shall wither and blast their industries, and make them a disgrace to their nativity.

"There is only one other point in this bill that I desire to allude to, and that is, in the event that it becomes a law, how can we free the Michigan farmer? He will still not be free from the competition with the identical beef that so troubles him now. The only difference will be that our butchers will buy live stock in Chicago for home trade, and dress it at home instead of buying dressed beef delivered. Practically, it only amounts to the difference in the freight between live and dead stock, that on the former being higher than the latter, and the small amount for the little more value of waste in Chicago than at home. Butchers can still continue to buy in Chicago and ship on the hoof, and it will not lessen competition with Michigan beef, and it cannot benefit the farmer more than the difference before mentioned. It seems to me that such a trifling matter ought not to imperil the whole beef industries of the United States. I believe it is our duty to look a little way into the future when such important measures as this come up, and reason as to what might be the result if all the United States should enact such laws as this proposed one, for of course it is the duty of all States as well as Michigan to, in a like manner, protect the health of their dear people.

"This Legislature might, with the same propriety, take measures to prohibit the shipment of Minnesota flour to our State on the grounds that it might be made from more or less poor wheat, as to which it takes an expert to determine what quality of wheat the flour is made of, and it might as well require the wheat to be inspected in Michigan before being ground, as to compel Chicago beef to be slaughtered in our markets, for it is a well known fact that the best spring wheat enters into the manufacture of Michigan's best flour. It is also a well known fact that Minnesota, as well as other wheat

growing States, grow quite a proportion of poor wheat.

"Why not protect ourselves from the dangers of receiving poor flour from Minnesota? Any one can see that such legislation would compel Minnesota millers to erect a mill in every State they are doing business in, or quit making flour at home. I have carefully considered this bill and find no good thing in it, not even to the farmers, but I do find much that is pernicious and dangerous, hence I consider it my duty to record my vote against the bill."

#### A WORD TO MICHIGAN BREEDERS.

The Argentine Republic, through its chargé d'affaires at Washington, Mr. Ernest Bosch, has addressed a formal invitation to the United States government to take part in the second international cattle show of the Argentine Agricultural Society to be held at Buenos Ayres next April, under the auspices of the National government. The show opens April 30, and closes May 11, 1890. Besides prizes of \$2,500 each for various essays on practical subjects connected with Argentine agriculture, sections and classes are provided for the principal breeds of horses, cattle, sheep and swine, and for agricultural products and agricultural implements. As the Argentine Republic is buying improved stock in large quantities—horses, cattle and sheep—this show should not be neglected by American breeders. There is an immense country to stock up there, and if we had a good line of steamships between New York and Buenos Ayres, our stock men would find the best customers in the world (for they are paying the highest prices at present) for their surplus stock. Could not our Michigan breeders unite and send a good representation of their stock to the exhibition in charge of two or three active men who are posted in the business? Short horns and Merinos are in good demand there, and in them Michigan can hold her own against all competitors. Here is an opening for a regular trade which should not be neglected.

#### A GREAT SHEARING RECORD.

SALINE, Aug. 23, 1889.  
To the Editor of the Michigan Farmer.  
Please find enclosed a sample of the secured fleece of "Miss Comet." It was sent to the Secretary of the Michigan Sheep Breeders' Association and by him to Stone, Alwood & Co., of Flint, Mich., who certify that the fleece on weighing them weighed 25 1/2 lbs., and secured eight pounds of good merchantable wool. I took a quantity cut of the fleeces for samples, and kept the fleeces two months in a safe before sending away. She gave the heaviest two year old breeding fleece on record, 26 1/2 lbs., and I think the heaviest two year old second fleece from a breeding ewe. Her lamb was a fine ewe lamb and suckled her a month, but was taken sick and died very quickly. "Miss Comet 2d," a full sister, is now five months old, weighs on dry feed, 55 lbs., is a better show ewe, and I think will outshear her at any age. I now own the ewe. "Comet" having bought out Mr. Isaac Wood's half interest. Comet is now five years old, weighs in full fleece nearly 200 lbs.; heaviest fleece, 34 lbs. 15 oz., fourth fleece. He is now in grand show shape, but he has sheared the last week in March he cannot be shown for a prize, but I may show him with 15 others, at Jackson, Lansing and Detroit. I notice in FARMER the per cent of wool from carcasses. I have seen a carcass of a late (but thrifty) yearling ewe, whose carcass weighed just 42 lbs. She was only eleven months old.  
N. A. WOOD.

Comet, the ram referred to above, was bred by A. T. Short, of Coldwater, and sired by Diamond, the champion shaver of Michigan. If not of the world, as he produced wonderfully heavy fleeces for six consecutive years, the two heaviest being shorn at State shearings. The ewes referred to by Mr. Wood are therefore grand-daughters of Diamond, and had M. S. Sheldon 45 for grand sire. Here are three generations of heavy shearers, and they seem to keep up the improvement. This shows how much good one really good sire can accomplish in the improvement of stock. Comet was a great find for Mr. Wood.

#### THE EUROPEAN WHEAT CROP.

The London Miller, in its regular monthly review, gives some interesting facts and reports regarding the wheat crop, from which we take the following extracts:

"In England the area of land lodged corn is very extensive, including some of the finest districts of the Fens and Lincolnshire, and it might be said, with very little exaggeration, the entire crop of counties called the Midlands. The crop will be irregular—good in many localities and disappointing in many. The divisions will be very arbitrary, often good crops at one end of the farm and poor at the other. The total yield may be guessed, with an ordinary August for harvesting, at 30 bushels on 2,500,000 acres or 75,000,000 bushels. The Field, of July 27th, reckons on a somewhat larger crop, say 30,000,000 bushels, and so does Duncombe's List. We certainly hope our own averages, as they accumulate during August, will lead us to a like conclusion. Probably the difference between the estimates may be taken as the measure of August influence, and we may assume that 75,000,000 bushels will be the outcome of the harvest at the end of an August analogous to July, while 80,000,000 bushels may be obtained if August follows the weather not of July, but of June.

"The unsettled weather of July, with its almost daily storms of thunder and rain, has been severely detrimental to the French harvest, which began with the month and should have been almost over by now, but which, owing to incessant interruptions, is only finished south of the Loire, and drags a weary course in the departments where the bulk of the crop is grown. A letter from Paris, dated July 27, says: 'Every day more or less great

deceptions are discovered in the yield of wheat,' and another letter of the same date describes the crop as badly lodged throughout Normandy and Picardy. A decided rise in prices at Nantes suggests poor news of the crops in Brittany and La Vendée. In the great district of La Beauce and La Brie the want of uniformity in the crop is the subject of general remark, some farmers having decidedly over average and others equally disappointing crops. The crop, as a whole, will probably be rather over than under-estimated if we reckon it at 17 bushels on 17,500,000 acres, or 306,500,000 bushels. If August improves in weather this figure should be reached, but quite five per cent would have to be allowed off if the completion of harvest were interfered with in the manner in which work in July has been interrupted by frequent thunder storms, drenching the cut grain and lodging the uncut corn.

"In Germany the weather has not favored the wheat plant for the last eight or nine weeks, and the outlook is not so bright as it would warrant us in assuming there will be an average crop in any district except the provinces west of the Rhine, which belong geographically to the region of northwestern Europe rather than to the central district. On July 24 a telegram from Vienna announced that the wheat harvest in the Austro-Hungarian empire had been below an average, owing to the drought, which in many regions had injured the crops early in June. On July 26 another telegram from Vienna announced that the long expected rain was at last falling heavily. The relief thus afforded, however, would only help spring-sown crops, such as barley, maize, and the small area of spring wheat. The bulk of the Austro-Hungarian wheat harvest is secured in July, and the season was not a backward one.

"The best of the lower Danube has been something extraordinary, and similar parching heat has prevailed all along the northern shores of the Black Sea. As a consequence the winter wheat has been killed and cannot be reckoned much more than half a crop in Rumania, Bessarabia, southern Russia, southeastern Russia and the Crimea. The spring wheat has done better and will often be a better yield. In the entire Russian empire, excluding Poland and Finland, winter wheat is reported to be an average crop over three-fourths of the area sown, and under average over five-eighths. Spring wheat is best in the east and poorest in the north; the south is a medium crop. Poland is expected to have a deficient crop of winter, but a fair yield of spring wheat. The southern provinces, as remarked in Duncombe's List, which supply a large share of the shipping ports, are already promising a good harvest. As regards the coming campaign, but in these districts the Chinese wheat grows very well. It is as yet too soon to give any definite estimate of the Russian wheat surplus for the approaching cereal year, but a tentative calculation would put the surplus at 8,000,000 qrs., against 14,000,000 last year."

#### TRANSFERS OF SHEEP.

Recorded in the Michigan M. S. B. Association.

Below find list of sales of sheep recorded in Michigan Merino Sheep-Breeders' Association:

M. Oney & Son, to H. W. & P. C. Perzel, Schoolcraft, ewes M. Oney 88, 89, 114, 127; to M. McIntosh, Waseca, ram M. Oney 168; ram M. Oney 169, to J. J. Porter, Three Rivers, ewes M. Oney 5, 7, 9, 11; to F. M. McGovern, Sault Ste. Marie, ram M. Oney 117, 123, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634







# Horticultural.

## South Haven Pomological Society.

The August meeting of this society was held at the residence of Mr. Joshua Smith, August 23d. Prof. E. F. Smith, who is investigating the yellows in the peach, and came to Michigan to see what additional facts might be ascertained here, was present and addressed the meeting. One of his experiments he narrated as follows: "I took one thousand trees and budded part with buds from yellow trees, leaving some unbudded for comparison, and I found the buds communicated the disease, the first year but little, but the second year every one showed the disease, while those not budded remained healthy."

Prof. Smith exhibited photographs showing the contrast between the trees, resulting from this experiment. No new light was thrown upon this mysterious disease, which seems to baffles scientific skill. The only remedy known to be always reliable is the ax. Trees supposed to be cured by potash salts were still affected; nor does cutting the affected branches check the spread of the disease. In the discussion which followed it was fully shown that the course of this disease obeyed no known laws, that it would strike an orchard near or remote from other diseased trees, move toward every point of the compass, take on trees without regard to age, situation, or previous condition, taking one or all trees from an orchard at its own sweet will, and of all the many theories advanced, pertaining to this disease, each one was met by some stern fact that disproved it; and after studying yellows for ten years we are just as wise as when we commenced, and the only safe remedy is the ax.

## The Heart and Biggarreau Cherries.

The editor of the *Canadian Horticulturist* makes up some interesting notes on cherries from his fruit farm. He says:

Of some twenty varieties, now about twenty-five years planted, only a few have proved themselves really valuable for market, and a limited number will give a successive supply of this most delicious fruit throughout the months of June and July. From the Heart cherries we get as a rule less fruit than from the Biggarreau class, and on account of their tender skin they are more subject to being eaten up by birds, yet they are so delicious and so much sought after, that they bring the very top prices in the market and deserve a place in every garden in southern Ontario. The following list will supply the able with a succession of daily supplies until the Biggarreau ripen, and with the Duke and Morelles continue the cherry season for a period of about four weeks. The Early Purple, though of medium size, has no competitor in the market, ripening as it does about the first of June. Governor Wood is a delicious cherry for eating out of hand, and is fairly productive; the skin is a pale yellow half covered with red. It is closely succeeded by the Elton, which we class as the best of the white heart cherries. The tree is a fine grower, and very productive. No cherry is more desirable for home use; but for shipping it is somewhat tender. Of the black hearts we commend Knight's Early, Black Tartarian, and Black Eagle. These are three varieties of the most excellent qualities, tender, rich, sweet and juicy. The latter, however, is not very productive, and would not pay to grow for market. The Black Tartarian is the most popular of them all, but the birds know this so well that they usually get the largest share of them.

The Biggarreau cherries are of finer flesh than the preceding class, yet, owing to their great productiveness and large size, they are usually more profitable. Among the light colored ones, the Yellow Spanish is particularly worthy of notice. It is a beautiful pale-yellow cherry of enormous size and excellent quality, and though not a heavy bearer, yet, it is found, it would be very profitable to grow for market in southern Ontario; unfortunately, it is among the very worst to spoil upon the trees, even before it is ripe enough to gather. This season it has been particularly unpopular in the market on account of the rotten spots; indeed this fault has been found with almost all light colored cherries, dealers writing, "Send no more white cherries."

The Napoleon is the heaviest cropper of any variety we have tried, and though inferior to the former in quality, it is far more profitable, for it is almost as large, and is much in demand for canning purposes. Of the dark Biggarreaus, we have found two which excel any other cherries for profit, viz: the Mezel or Great Biggarreau and the Tradesman's Black. The former is an enormous cherry, that has yielded with the writer as many as a dozen 12-quart baskets to a single tree, and that, of such cherries as sell in Toronto market at \$1.50 per basket. The latter comes in with the Knutish, at a time when the market is clear of all the fine varieties. It is a fine shipper, because the flesh is so firm, and, like all the blacks, it has the advantage of color in contrasting the specks of rot, which so disfigure the white ones, even when too small to really injure the fruit.

We have been troubled badly with the black knot on our Kentish cherries, but thus far we have kept them free by careful clipping off of all affected limbs. If we could contend successfully with the rot, the growing of the Heart and Biggarreau cherries in favorable sections would be more remunerative than that of strawberries. Thus far, however, no very certain remedy has been proposed. Scientists very wisely tell us that is a fungus known as *Oidium fructigenum*, which is very widely distributed especially upon the cherry and the plum. It consists of much branched threads which permeate the tissue of the fruit and cause it to turn brown and decay; and when the air is moist these produce tufts of dirty white, dusty fruiting threads. These are divided into sections, which, when ripe, separate and form spores. When the fungus is ripe these successively ripen and drop away.

As these spores can only develop in a moist atmosphere, it is evident that if we could keep our cherries perfectly dry there would be no rot; but as this is impossible, we can only employ preventive measures. They have great vitality, and preserve their generative powers from one fruiting season to

another. Sometimes a fruit is attacked before it is ripe, and in that case it hangs upon the tree all winter, until the next fruiting season, and the spores are to be found on it during the whole time. Fallen cherries also serve to propagate the fungus from year to year, and therefore it is evident that much can be done by carefully clearing up and burning all that is decayed, and, where possible, by having pigs under the trees to eat up all that drops.

## The Strawberry Crop.

Wm. Falconer tells, in the *Rural New Yorker*, how he manages a strawberry plantation: As soon as we had finished picking—this year about the end of June—I had the ground well cleared and the roughest of the straw mulch taken off; then with sharp four-pronged hoes we unfurrowed the soil between the rows. This was to cultivate the land, readily admit air and moisture into the soil and help exclude drought, and to form genial rooting ground for the runners. The runners now are strong, healthy, well-rooted and fit for transplanting. I am now preparing ground for a new plantation; it has just been cleaned of root crops. It has been heavily manured and subsoiled and marked off into rows two feet apart. I will set two plants close together in the hill, and any more runners these newly-set-out plants may make this season will be cut off as soon as noticed. If short of ground elsewhere, I will grow a row of small lettuce, radishes, horn carrots or other small crop between the strawberry rows; but if I have plenty room elsewhere, I will not crop between the rows, but, instead, keep them well cultivated so as to strengthen the plants. In December I will scatter some well rotted manure broadcast all over the strawberry patch; then some salt hay or sea slush thinly over the plants to protect them from sun and wind in winter.

From the strawberry plants I set out each year in this way about the end of July or in August, I get a capital crop of fruit the June following, and always our largest berries. The chief trouble of fall-planted strawberry plants is that they are set out too late to become large and well-established before winter sets in, hence they get heaved by frost a good deal and many of them killed. I am not troubled in this way, as our young plants are just as firmly established as are the old ones.

A farmer with plenty of land perhaps can afford to plant in spring, but a gardener cannot very well do this. We never could afford to keep our ground occupied for a whole year with a crop that has not borne us any fruit. I never do. Every rod of ground has to produce something every year. And if there is an unproductive crop in the ground, such as asparagus the first year or young fruit trees, we get catch-crops enough off the land to hardly make the presence of the unproductive crop felt.

## Grapes on the Hudson.

The grape crop on the Hudson River is a partial failure this year. Of a 20-acre vineyard in about average condition a correspondent of the *Orange County Farmer* says:

"We spent three hours together going over the place, examining the different grapes, and it was Mr. Brewster's judgment, as well as my own, that he would have between 50 and 60 per cent of a full crop. The Concord in some parts of the vineyard are very fine and unharmed, while in other parts near by they are a total failure, both in fruit and foliage; but I think on the whole they will average about 75 per cent of a crop. Champion, which Mr. B. considers a very profitable grape, will be fit for market in a few days. They are a mass of fruit, very rank growers and unharmed. Delaware are very fine and unharmed, the most perfect bunches of any varieties on the place. The Packington is very fine and not injured to any extent; in this respect and in the size of the fruit it shows its superiority over Dutchess, Lady Washington and others of the white grapes."

"Lady, of which Mr. B. has considerable, is a bad failure. The foliage is burned and a black spot on nearly every grape. Mr. B. says these will not pay for gathering them. Catawba is also decaying badly. The foliage of Niagara is all right, but two-thirds of the fruit is ruined. Jefferson is a complete failure. Agawam, Mr. B.'s favorite in the reds, is hurt both in fruit and foliage, and will not be over 25 per cent of a crop. Dutchess, which is planted to some extent, is the worst failure on the place. Martha and Brighton are also materially injured, and will scarcely be worth picking."

## Girdled Trees.

While calling on Mr. H. F. Smith some time since, at his farm in Waterbury, Vt., I was shown a section of an ornamental birch from which the bark had been girdled by rabbits or mice during a previous winter. At the time Mr. Smith found it the tree was in apparent full vigor but much larger above than below the place where the bark had been removed. After Mr. Smith and his neighbor, Timothy Wadsworth, who has given special attention to the movement of sap in trees, had studied its structure the section was sent to me for further examination. I find the girdled section appears to have been dead for some time, the outer ring of sapwood being dry and weather stained. Below the girdling the stick measured one and a half inches in diameter, while above it it measured two inches through, and still more just above the injury where the bark has made a large ring of callous or corky growth. Both above and below the girdling live branches with leaves have aided the growth of each portion.

Illustrations of similar growths are shown in the Massachusetts agricultural report for 1873-74, page 204, in President Clark's lecture on plant growth. Here are five sections of illa bushes, around which copper wires had been fastened to cut off the flow of sap. During the first summer a little sap was returned under the wire, so that a thin growth of new wood was made below, but not nearly as much as above. The second year, the wire having become so tightened by the growth of the stem that no sap could return beneath the bark, no growth was made, except above the wire. The third year the entire stem died soon after the usual time for leafing out.

This shows, as claimed by President Clark, that although the sap of trees rises in spring through the heart wood of the tree, it

can only return to add to the tree growth through the outer or alburnum layer just beneath the bark.

Trees grow in size by building on annual additions to the circumference, making the "rings" by which their age may be determined or closely estimated, and the material is fitted for its use by the leaves, which are to trees what the digestive apparatus is to animals. I once had an apple tree stripped of its bark in winter by calves. The following summer it made nearly its usual growth of leaves and bore a moderate crop of fruit; the bare trunk in the mean time becoming considerably checked and seasoned on the surface. The second summer the tree leafed and remained green until the autumn when it became dry, dead wood throughout.

In the volume previously referred to is a drawing of a section of a branch with several rings of bark removed. On the rings left, some have buds while others are without them. The latter made no growth during the summer because there were no leaves connected with them to furnish growth material. Other sections having buds attached made considerable growth, particularly at the lower margin, giving the section much the appearance of the stick received from Mr. Smith.

If a ring of bark be removed from a tree late in June, when the new growth is beginning to form, it is possible for the tree to repair itself with scarcely any injury, but at other times in the year it will cause death in two years or less. Girdling trees or branches that are of no special value will afford an interesting study to young persons interested in vegetable growth and the movement of sap.—N. E. Farmer.

## About Garden Seeds.

Glen Wilson, in the *Country Gentleman*, voices a popular grievance, which is especially severe on market gardeners to whom seed used to name means loss of a crop and all that want to its culture on high priced lands. Something should be done to give gardeners some guarantee that seed will come reasonably true to name. Mr. Wilson says:

Many seedsmen in their catalogue use language so near a warranty, that the casual reader thinks it amounts to that; so he makes his selections, sends his money, and when the seeds arrive, if in considerable quantity, he finds passed across each package words to this effect: "In no case do we undertake to warrant these seeds." An extract from the catalogue of a firm that sent out this message of repudiation reads as follows: "We handle nothing but the highest grade. \* \* \* Each year thousands of dollars are expended on our trial grounds, testing everything, selecting only the best." If this does not convey the impression of warranty, how much does it lack of it? Nevertheless, red onion seed produced red, white and yellow bulbs, and white radish seed produced both white and brown, and parsnip seed would not germinate. This does not look like the "highest grade." But we are told that seeds should be purchased early enough to test them. Testing would only decide their vitality, or otherwise. The season would be over by the time it could be ascertained whether they were true to name or not. Seeds not true to name, and those of low vitality, do not comprise all the difficulty. A serious trouble arises from some dealers purchasing stranger seeds for distribution in the north. Seeds grown in a low latitude are not likely to ripen truly in a high latitude, and yet a man in Alabama grew there last season, and sold to northern seed-houses, 35,000 pounds of garden seeds. To what extent such trade is carried on, the public do not know. Who would knowingly plant Alabama melon or other seeds in latitude 42° or above? Seedsmen should adopt some measures to enable customers to know better what they are purchasing.

## The Deadly Upas Tree.

This is a tree common in the woods of Java and neighboring isles. Its botanical name is *Antiaris toxicaria*. Figure says the half-fabulous poison tree of Java was said to be a large tree growing in the midst of a desert produced by its pastiferous qualities, and causing death to every other plant and animal which came under its influence. To approach the tree for the purpose of wounding its stem and carrying off the juice, was said to be the task of criminals condemned to death. There is a measure of truth in the fable. There is an upas tree in Java, and its juice taken internally, is speedily death to an animal; and there is a tract of land where neither plant nor animal can exist, but the two circumstances have no connection. The poisoned tract is the crater of a volcano, which emits carbonic acid gas continually—a spot where even the upas tree cannot grow. There has recently been discovered a similar locality in the National Park, where the emanations from the regions below are so deadly that hundreds of the wild animals have been overcome, and lay bleaching until washed down the gullies by mountain storms. This is said to explain the disappearance of native animals that has been charged to poisoning trappers.—*Prairie Farmer*.

## FLORICULTURAL.

Sow seeds of Chinese primroses in July and you may have flowers in December, and thence on to spring. Sow in shallow boxes or pans, filled about two inches deep with earth. Sow thinly, press with the bottom of a small flower pot and cover evenly with soil one-sixteenth of an inch, smooth off and press again rather firmly, cover lightly with moss or blades of grass to keep the soil from drying out, then dampen it. Keep the pans or boxes in some shaded and dry place where the wind cannot reach them. Do not give much water, only enough to keep the soil damp. As soon as the plants make their appearance the covering should be carefully removed, and the boxes kept in a well-aired place where there is plenty of light, but not in the sun. The greatest trouble in primrose growing is the damping off of the young plants while yet in the seed boxes. This can easily be overcome by giving plenty of air and light. After being transplanted the trouble will be over. When the plants are of sufficient size and have made some fibrous roots, they should be planted into small pots, the smallest that can be had, using sifted soil as described, then give a pretty thorough watering and shade for a few days, afterwards setting them in as light and cool a place as can be found, keeping the soil

moderately moist. In all stages of growth an over-supply of water should be avoided; it being better to allow soil to become quite dry occasionally. When the pots become filled with roots the plants should be shifted into three inch pots, and treated as when in small pots. As soon as these pots are well packed with roots, when the lower leaves begin to turn yellow, they must be put into larger pots; the lower leaves should be cut off and the plants set a little deeper than they were before. Use four inch pots for this planting. Should they require another repotting use larger sized pots as most suitable to the size of the plants. They must be kept in vigorous growth to bring the flowers to the largest size and greatest beauty. A small quantity of good fertilizer mixed with the soil when repotting will prove beneficial. About the time the flower buds appear the plants should be set where wanted when in bloom, they then become adapted to the place, and will do better than if changed while blooming. When set in a window they should be placed near the glass to have a good share of light and a cool place. If lightly shaded the flowers will be larger and of brighter colors than when kept under the full rays of the sun.—*Popular Gardening*.

## Horticultural Items.

AGENTS for English fruit dealers are already buying apples on the trees in New York State.

The Flemish Beauty pear has become almost worthless in Eastern New York, on account of its susceptibility to the attacks of a black fungus which develops upon it in patches which crack open and grow bitter.

The auction system of selling perishable fruits so long in vogue in Europe, is rapidly becoming popular in the large cities of this country. It meets with favor from both buyers and sellers; and it is predicted that all perishable fruits, as well as the dried product, will soon be disposed of in the auction room.

NEAR Olden, on the Otsego Mts. in Southern Missouri, is one of the finest fruit farms on the Continent. It consists of 2,900 acres of land, owned by a syndicate formed of members of the Missouri Horticultural Society, and planted to 61,000 peach, 23,000 apple, and 2,000 pear trees, with 40 acres in small fruits. The enterprise is a grand success. Twenty men were employed to thin the peach crop this spring, and it is estimated that not less than 10,000 bushels of fruit were thrown down to ensure the development of what remained.

An Englishman has invented a machine which effectually picks the strigs (stems) from red and black currants without the use of the fingers. The currants are distributed upon a band which is ever passing upwards; at the top of this is a revolving brush, which takes the strigs from the currants leaving the currants to roll down to the bottom into a receptacle. It was very interesting to see that scarcely a strig ever got to the bottom of the band but was sure to be carried up again and under the brush, and out at the back of the machine.

In some localities where the grape-leaf hopper is very destructive, the following plan is in use for their extermination: Four laths are nailed in a square and well braced. This frame is covered with drilling, which is then smeared over with the residue of petroleum remaining after the kerosene is distilled off. One man carries the frame, while another raises the vines, thereby disturbing the leaf-hoppers, which fly against the shield, and are thus destroyed by millions. The best time for the operation is found to be just before or near sundown and nightfall.

The value of coal ashes as a mulch is generally underestimated. In regions where drought prevails, a mulch preserves moisture and assists the tree to perfect its fruit. A man in Southern Texas began to observe that grass and weeds around the ash dumps on railroads were greener and more luxuriant than elsewhere, and, especially during a drought, continued to grow right along, while elsewhere they were withered and brown. Acting on this, some six years ago he applied a coat of coal ashes to two hundred pear trees, with remarkable results. The trees so dressed bear twice the size, and bear much larger crops than others under the same general conditions, but without the dressing of coal ashes.

RELATIVE to the training of grape vines, Mr. J. S. Kidder said at a meeting of the Missouri State Horticultural Society: "It is impossible to obtain fine, large, perfect bunches, except from strong young canes. To do this it is necessary to renew each year from the base of the vine, and this is about one of the hardest things a vineyardist has to accomplish. I believe that the vineyard of the future will be managed on some such plan as this: Instead of planting vines 12x12 feet apart they will be planted 6x12 feet. One-half the vines in each will be allowed to bear fruit, and the other half will be allowed to raise young canes for next year's bearing year. I believe by some such system finer fruit could be obtained than by the usual process now pursued."

## Apianarian.

Bee Stings in Medicine.

A. L. Root, in *Gleanings*, recently said: A short time ago a prominent pharmacist concerned in the city of New York gave us an order for 1,000 bee stings. Perhaps I should explain here, that from bee stings a medicine is prepared called *apis mellifica*. This medicine is used only by homeopathic physicians, who give it to patients in cases of swellings, skin eruptions, etc. To return: Swellings cannot be extracted from the bees in any wholesale way. It must be done one by one and with suitable tweezers. Our method of procedure was as follows: A frame of bees was put in a comb holder, just before the window. Our Mr. Spafford took a pair of tweezers and grasped the bee by the thorax. A slight pressure caused the bee to protrude its sting just a trifle. Another pair of fine tweezers grasped the sting and pulled it out. A cruel operation, you say. Yes, but the bee was crushed immediately after the removal of the sting, by the tweezers holding the thorax. There was no other way than to count each individual sting as it was pulled out and dropped into a receptacle to receive it. In the tray, after the whole job was completed, we had 1,000 stinging bees. These bees were placed on very delicate scales, and weighed. As nearly as we could get at it, 1,000 bees weighed two and seven-eighths ounces, minus their stings; but as the sting itself is such an ex-

ceedingly small instrument—much smaller and more delicate than the point of the finest cambric needle, and very much lighter, it would not play a great part in the weight of the bee. However, it would be fair to suppose that 1,000 stings might weigh one-eighth of an ounce—not more, I think. These bees, at the time of killing, had very little honey in the honey sacs—about as much as bees usually have when sold by the pound. In round numbers, then, 1,000 bees will weigh three ounces. At this rate a pound will contain just exactly 5,333. If the bees have very much honey in their sacs, this number would be reduced to something like an even 5,000, or perhaps a little less; so it is fair to suppose, under ordinary circumstances, if my estimate was correct, that a pound of bees would contain, on an average, about 5,000 bees. For several years back we have said in our price list, "As nearly as we can make out, there are 4,000 bees to the pound." In our next edition we will put it 5,000, unless somebody makes out that I have made a mistake. I should like to have some one else experiment and see if my figures are correct. There is no practical bearing as to how many bees there are in a pound; but it is interesting to know, when we are speaking of the numerical strength of a colony, how many thousand bees there should be in a hive to be able to take advantage of a honey flow. Some colonies of bees contain eight pounds and some even 10; the average working colonies not much over five pounds. The number of bees in a colony might range, then, all the way from 5,000 up to 50,000.

G. M. DOOLITTLE, in an article in the *Bee Journal* relative to the distance bees will fly in search of nectar-bearing flowers, mentions a year when the nearest place of buckwheat was 4½ miles away, and six miles away was about 100 acres. He says he sold 900 lbs. of buckwheat honey that year, and the bees wintered on not less than 2,500 lbs. He is thus satisfied, bees will go six or even more miles for honey, though they will work to better advantage when they can find it within two or three miles.

The first signs that a colony is getting short of honey in the breeding season, is to find the drones being killed off. If they are not fed, they soon tear the drone-brood from the cells, and after having sucked all the juices out of it, the remnant is cast on the alighting-board. When bees get so short of honey as to do this, brood-rearing ceases almost entirely, and the apiarist is very short-sighted indeed who allows his colonies to get in this condition, for the brood which is then being reared is to make the bees which are to gather the honey. If the bees are not fed, and the weather still continues to be bad, the bees next treat the worker-brood in the same way they did the drone-brood; soon after which all starve, and though the bees can be revived by pouring warm honey or syrup on them, after nearly all of them have become so near dead that they can scarcely move. The bees may be worth saving if they are found in this last condition, but to think of getting any surplus honey from that year is out of the question.

WASH FOR FRUIT TREES.—We have described on former occasions the liquid which is applied to fruit trees to exclude the depredations of animals; but on account of frequent inquiries we briefly repeat some of them. When sheep have been turned into orchards to devour the dropping fruit which has been infested with the codling worms, they are prevented from eating the bark by a mixture of lime-wash, common or white-ash soap and sheep dung, applied with a brush. To exclude the peach grub, make a mixture of a pint of crude carbolic acid, a gallon of hot water, and then after several hours add eight gallons of cold, soft water, well stirred together. Apply this mixture with a swab or brush around the base of the tree. This will be enough for 500 trees. To apply white hellebore to currant bushes, add four ounces of hellebore and half a pint of soft-soap to a pail of water and throw it on the under side of the leaves with a syringe. The soap makes it stick.—*Country Gentleman*.

Take Hood's Sarsaparilla 100 Doses One Dollar

The Chief Reason for the great success of Hood's Sarsaparilla is found in the article itself. It is merit that wins, and the fact that Hood's Sarsaparilla actually accomplishes what is claimed for it, is what has given to this medicine a popularity and sale greater than that of any other sarsaparilla. Hood's Sarsaparilla cures Scrofula, Salt Rheum and all Humors, Dyspepsia, Sick Headache, Biliousness, overcomes that Tired Feeling, creates an Appetite, strengthens the Nerves, builds up the Whole System. Hood's Sarsaparilla is sold by all druggists. \$1.00 per bottle. Prepared by C. I. Hood & Co., Apothecaries, Lowell, Mass.

Nothing Succeeds Like Success. I have been successful in the production of Comb Honey for the last ten years, and my little pamphlet "How I Produce Comb Honey," briefly explains the method I pursue. By mail, 6 cts. per copy; per 100, \$5.00. My illustrated price list of General Supplies, Bees and Queens.

free. Address GEO. E. HILTON, Fremont, Mich. \$5 to \$8 a day. Samples worth \$2.15 free. Lines not under horses' feet. Free. Resister Safety Belt Holder Co., Holly, Mich.

NEW ADVERTISEMENTS.

SEND FOR CATALOGUE AND PRICES AND MENTION THIS PAPER.



YORK M.F.C. CO. (LIMITED), PORTSMOUTH, OHIO, U. S. A. —MANUFACTURERS OF—

THE YORK PATENT ALL-STEEL SCRAPER

The best in the market. The body is made of one piece of steel without any extra joint, which, with the high runners and steel braces to the handles, makes a combination of merit unsurpassed by any other. Investigate before placing your order elsewhere; it will pay you.

GREAT OFFER!



Pianos, \$35. Organs. Direct from Factory at Manufacturer's Prices. No such offer ever made before. Every man his own agent. Examine in your home before paying. Write for particulars. Address: The T. Swoger & Son Pianos and Organs, BEAVER FALLS, PENN'A.

THE SYRACUSE NURSERIES

OLD AND RELIABLE. LARGEST AND MOST COMPLETE Assortment of Nursery Stock in America.

In BUDDED APPLES and STANDARD PEARS they acknowledge no competition—quality considered. Nurserymen and dealers will consult their own interests by getting prices on this SYRACUSE STOCK before buying. Special inducements to buyers in large quantities.


SMITHS, POWELL & LAMB, Syracuse, N. Y.

Sewing Machines!

ONE - THIRD PRICE!!

THE NEW AND GREATLY IMPROVED HIGH-ARM SINGER

The Finest and Best Made Machine of the Singer Pattern in the market.



HIGH-ARM IMPROVED SINGER.

With each of these machines we furnish one Ruffler, one Tucker, one set Hemmers, one Foot Hemmer, one Sew Driver, one Wrench, one Oil Can and Oil, one Gauge, one Gauge Thumb-Screw, one extra Throat-Plate, one extra Check-Spring, one paper Needles, six Bobbins, and one Instruction Book. These articles are all included in the price named.

Bear in mind that these machines are thoroughly made and of first-class workmanship, and

EVERY MACHINE WARRANTED FOR FIVE YEARS.

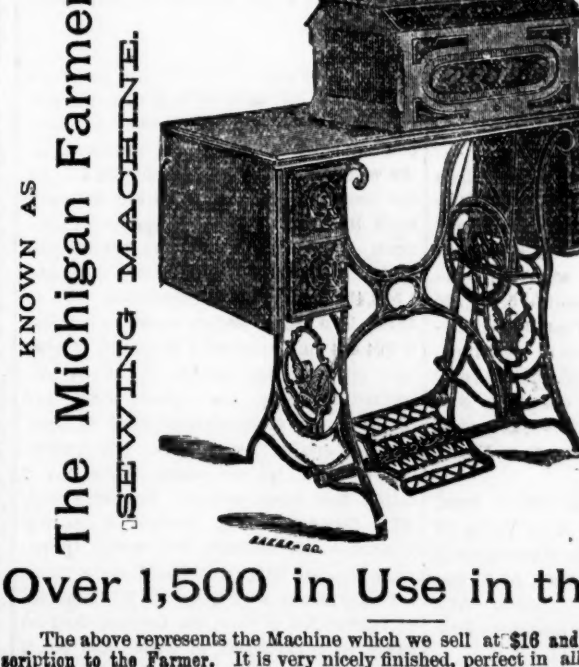
These machines furnished to subscribers of the *FARMER* for

\$18.00!

Which includes also a year's subscription to the paper. There never was a high-arm machine sold before for less than three times this price.

THE LOW-ARM MACHINE OF THE IMPROVED SINGER PATTERN.

PRICE REDUCED TO \$16.00 Which Includes One Year's Subscription to the "Farmer."



Over 1,500 in Use in this State!

The above represents the Machine which we sell at \$16 and throw in a Year's Subscription to the *FARMER*. It is very nicely finished, perfect in all respects, and guaranteed to give satisfaction. We are contracting for large quantities and furnishing them to our customers at about cost. Agents' and dealers' profits can be saved and one of the best Machines obtained by ordering from us. A full set of attachments included with each Machine.

Purchaser pays freight, which runs from 65c. to 90c. on each machine, according to location of purchaser.

CASH MUST ACCOMPANY ORDERS.

Samples of these machines can be seen at this office. Address orders to GIBBONS BROTHERS, DETROIT, MICH.
















## VARIETIES.

 successful. Before placing any  
Newspaper Advertising contract  
**LORD & THOMAS.**  
ADVERTISING AGENTS,  
45 to 49 Randolph Street, CHICAGO.

**THIS PAPER** is on file in this city  
at the New-  
W. W. AYER & SON, our authorized



The Dairy.

CONDUCTED BY T. D. CURTIS.

Profit and Loss in Dairying.

We were glad to see last winter, that Dr. Collier, of the New York Agricultural Experiment Station, and Dr. Babcock, of the Wisconsin Station, revived the subject of weeding out the dairies of the country, which we started in 1879 by reading a paper, entitled "Profit and Loss in Dairying," before the annual convention of the American Dairyman's Association, in January of that year. The majority of the convention thought us wild and unreasonable, but the leading members generally sustained our position. It was gratifying to see that Drs. Collier and Babcock received more attention and a wider hearing. The papers discussed the subject as a new one; but we have from the first continued to present it, by pen and speech, on every suitable occasion, until it has become almost stale to us; and many intelligent and progressive dairymen—notably Mr. H. B. Guler, of De Krib, Ill.—have experimented in the line of weeding out their dairies, and reported the most decidedly favorable results, at dairy conventions, during several years past. All the same, the facts and arguments seem to have made little impression, and there is reason to fear that the two doctors have not been more successful in arousing the sleepy dairymen.

Ten years ago we advocated cheaper production, though smaller farms better fitted and fewer cows better selected, and kept. We held that half the cows of the country are kept without any profit to the owners, and most of that half at an actual loss. The average annual yield of milk per cow was estimated by the best judges at 3,150 lbs. This was good for 315 pounds of cheese, or about 130 pounds of butter. We contended, and would not bring over \$32.50. Everything at that time was estimated by the amount of milk produced. There were not but many Jerseys then, and quality was not little considered. So, a sunning scrub quality, we contended that an annual yield of less than 5,000 pounds per cow would not pay a profit, as this at 75 cents per 100 pounds, would give only \$37.50 income per cow, which would not more than pay for her keep. We see Dr. Collier estimates the cost of keep as \$43.21 per annum. But our figures were objected to as too high, though subsequent statistics showed they were almost exact. Hence, if there was profit, it must come from a yield above this. "Then," we said, "it is self-evident that the way to increase our profits is to kill one-half our cows, which are as good for beef now as they ever will be." This would probably not reduce the annual product of butter over one-quarter—a shrinkage which the market would then stand without producing extreme prices. We illustrated the saving by figures, as follows:

"Now let us suppose an average dairy of 50 cows—that is, a dairy that will average a yield of 3,150 pounds per cow, during the year—and see what the receipts will be. If we multiply 3,150 by 50, we have 157,500 pounds of milk, worth, at 75 cents per 100 pounds, \$1,181.25. Suppose we dispose of one-half the herd, reducing the number to 25, and thereby increase the average yield per cow to 5,000 pounds a year. This gives us 125,000 pounds of milk, worth \$937.50. In reducing the cows one-half, we have reduced the receipts—no 500,000, or one-half—but \$244.75. Now have we reduced the receipts 25 per cent, which would be \$297,000, but only \$244.75, or less than 20 per cent. So much for the receipts. What have we done in the way of saving? We save one-half the room in the stable, we save one-half the time in milking, we save the handling of about one-fifth the product, we save one-half the hay and other feed, and we save one-half the capital invested in the cows, and one-half the risk, with same apparatus. Supposing it costs \$37.50 to keep a cow through, as I have assumed, we save \$307.50 (in cost of keep) and save \$244.75 (in receipts). We have saved \$552.25 more than we have lost—and this is a larger profit than most dairymen are able to count at the end of each year,"—to say nothing of other savings.

This was uttered over 10 years ago, and is almost as true and applicable to-day as it was then. We have since made a little improvement in the dairy stock of the country.

Poor Butter.

The poor butter in market does not all come from poor cows, nor is it all attributable to poor butter-making. The greater portion of it is due to poor handling and storing. Whole dairies of finely made butter are sometimes spoiled by bad storing. We once saw a dozen tubs or more in this condition. The proprietor was going to show us some nice butter, already spoken for by a public institution. The first tub into which the tryer was put was of flavor. The next was in a similar condition. Only the last tub made was sweet. The rest were graded in rankness according to age. The butter in the tubs was made of ash, and standing in an open cellar where the temperature did not vary much from that outside. Common sense ought to have taught the proprietor better; and he did not seem to lack in common sense in other matters. But he was thoughtless. His cellar was too open and warm. Some others are too full, and the tubs are set on the bottom to absorb the earth odors as well as those floating in the air. The place where butter is stored cannot be too dry and sweet, and must be cool. Comparatively few, however, keep butter at home. They send it directly to market, and it is stored there, where the same fate awaits it, unless it is at once sold to the consumer. Creamy butter, and all butter made of very sour cream and not very carefully washed and worked free of caseous matter, soon gets an "old" taste, and then a positively bad one. The roll butter of the country fares even worse. It is carelessly thrown into an open barrel or box, with butter of all grades and colors, and of course is soon spoiled, however nice it may be at first. Perhaps the open box or barrel in which it is stored is surrounded with codfish, kerosene, plug tobacco, smoked fish and meats, and all sorts of malodorous things. The country storekeeper

is to blame for this careless handling, but the poor buttermaker gets all the curses and a very poor price for her butter which receives this sort of care and treatment. But why does he not send her cream to a creamery? There are many thousands who are not situated so they can. The good housewife has a little surplus left that the required for family use. It is nice and palatable. She wants a few small articles from the store, and so it is consigned to the "shoe-box." This is the way that "store butter" is thrown upon the market.

What Does It?

The puzzle about ripening cream for churning appears to deepen, unless we accept Prof. L. B. Arnold's idea that oxidation is required. But this would not be orthodox, according to the latest Western "authorities." They are sure that lactic acid does it. But Mr. Gilbert, of Richland, N. Y., agrees with Col. Curtis that "you can sour cream but not ripen it." He says: "Cream does not want to be sour, but it is not ripe until it is sour, that is, does not want to be sour from the acid." Can it be that he refers to acetic acid—that anybody ever sours cream until vinegar is developed? In some of the Western creameries they sour it until the whey separates—"it wheys," as they call it! If he does not mean this extreme souring, then he must object to lactic acid, which is the first to appear. Something is needed besides acid. What is it, if not oxygen? We would like to agree with somebody, but the "authorities" won't let us. So we wait the developments likely to follow the use of the new butter extractor, which has nothing to do with ripening cream, but simply the better right out of the sweet milk. If the public palate endorses that kind of butter, then good-by to the plagues of our house which come in through the question of ripening cream for churning. We will relegate them to the realm of the witches that used to torment our good old ancestors and call into requisition the red-hot horseshoe. What we want is fine butter, and we do not care how it is made. If any one has got a process by which he can make it every time, let him stick to it.

Ensilage in Minnesota.

The experiments of Prof. W. M. Hayes, of the Minnesota Agricultural Experiment Station, are interesting and instructive. He got more value per acre from flat corn than from Southern corn. The cows decreased in weight on the latter, but increased on the former. It paid better to put corn into the silo than to husk it, then handle the dry stalks as fodder, and feed the corn separately. He got the best results from letting the corn begin to glaze before cutting it for ensilage. He thinks silage corn has as much available dry nutriment as that which is air-dried. If one has 20 or more cows, it will pay in Minnesota to build a silo. The great danger is in feeding too much corn ensilage; it should constitute not over one-third of the day's ration. His finds corn ensilage and clover hay an excellent combination for coarse fodder. Hay supplements these with bran, shorts, corn-meal, oat-meal, etc. These results are about like the popular claims for corn ensilage.

Warm Water for Cows.

In experiments with water given to well-sheltered cattle, Prof. Hayes, of Minnesota, found no difference in results between giving the cows water at 70 degrees and 32. If animals are kept warm, he infers that the temperature of the water which they drink makes little or no difference, but that about 50 degrees is preferable. It stands to reason that no animal shivering with cold would be further chilled by drinking ice-cold water and warmed by drinking warm water. Hence perhaps the beneficial results from giving warm water which have been reported in some cases. If cows are exposed or stand in a cold stable, almost anything warm would be good for them. Animals should not be chilled by cold water or exposure to cold weather. Chilling is very bad for dairy stock in all cases. Comfort is a blessing to both the cow and her owner.

Veterinary Department.

Conducted by Prof. Robert Jennings, Veterinary Surgeon, Professional Address through the columns of The Michigan Farmer to all regular subscribers free. The full name and address will be necessary that we may identify them as subscribers. The questions should be accurately described to enable correct treatment. No questions answered professionally by mail unless accompanied by a fee of one dollar. Private address, No. 301 First St. S. E., Detroit, Mich.

Splint in a Young Horse.

STEVENS, Aug. 12, 1889. Veterinary Editor of The Michigan Farmer. I have a young horse that has a splint. Can it be removed? If so please prescribe treatment through the columns of the FARMER and oblige. SUBSCRIBER.

Answer.—A splint, a bony excrescence, may or may not be removed. Its character and its location are first to be considered in answering this question understandingly; of neither of which you have given us the slightest idea. If the splint is near the head or articulation of the splint bone with the knee, or in the hind leg with the hock joint, its removal is more difficult or uncertain than when remote from these joints. Usually a splint disappears with the growth of the animal, even where treatment is not resorted to. The application of a blister to the tumor usually reduces it. The ointment of biniodide of mercury applied to a splint, and well rubbed in, frequently removes it without leaving a blemish.

BURLINGTON ROUTE.

Through Sleeper Daily to Texas Points. The C. & Q. R. R. is now running in connection with the Missouri, Kansas & Texas Ry. from Hannibal, a sleeping car from Chicago to Sedalia, Ft. Scott, Parsons, Denison, Ft. Worth, Waco, Austin, Houston, Galveston and other points in Missouri, Kansas, Indian Territory and Texas. Trains leave Chicago at 5:45 p. m. daily, except on Sunday, and reaches Texas points in three days quicker than any other route. Through tickets and further information can be obtained of Ticket Agents and P. B. Eustis, Gen'l Pass. & Tkt. Agt., C. & Q. R. R., Chicago.

Commercial.

DETROIT WHOLESALE MARKET.

DETROIT, August 23, 1889.

FLOUR.—No change to note in values. Market rather weak in sympathy with wheat. Quotations on car-lots are as follows:

Michigan roller process	3.90	4.00
Minnesota, patents	4.40	4.50
Minnesota, patents	3.75	3.85
Minnesota, patents	5.00	5.10
Minnesota, patents	2.75	2.85
Low grade	2.25	2.35

WHEAT.—Prices show a decline of 1/16 during the week, closing quiet. Receipts light for the season, and the shipping demand keeping stocks low. The visible supply is lower than for years at this season. Closing quotations to-day were as follows: No. 1 white, 85c; No. 2 red, 75c; No. 3 red, 73c; No. 4 red, 62c. Futures closed with No. 2 red at 80c; September 75c; October 70c, and December at 60c per bushel.

CORN.—Dull and lower: No. 2 yellow, 37c; No. 2 mixed, 37c; September futures at 36c; No. 2 white, 23c; No. 2 mixed, 22c; light mixed, 22c per bushel.

BARLEY.—Quoted at \$1.15 per cental for No. 2 spot.

FRUIT.—Bran quoted at \$10.00 per 100 lb. and winter wheat middlings at \$10.00 per 100 lb. and clover seed—Sales of prime were made at \$1.27 for October and \$1.32 for November.

RYE.—Firm at 44c per bushel for No. 2 spot, and 44c for September.

POULTRY.—No fancy dairy in the market. The range for four good dairy is 13c per lb.; choice 12c higher; creamery, 14c per lb.; and steady.

CHEESE.—Quoted at 9c for Michigan full cream. Market steady.

EGGS.—The market is steady at 14c for 15c; receipts light.

HONEY.—Quoted at 12c for new. Market dull.

FOREIGN FRUITS.—Lemons, Messina, 50c; oranges, Messina, 50c; bananas, yellow, 10c; white, 10c; figs, 12c for layers, 10c for fancy. Cocoanuts, per 100, \$4.25. Pecan dates, 5c per lb. by the box.

SALT.—Michigan, 80c per bushel in car lots, or 85c in 10-bbl. lots; dairy, 1c per bushel; Ashton quarter sacks, 75c.

HIDES.—Green city, 3c per lb. country, 4c; cured, No. 1, 4c; No. 2, 3c; No. 3, 2c; No. 4, 1c; runners and No. 2, 2c; sheepskins, 50c to \$1.25 as to quality.

HAY AND STRAW.—Quoted at \$2.11 per ton for new as to quality.

BEANS.—Quoted at \$2.10 per bushel for city select mediums.

PEAS.—Waxed—Scarc and firm at \$2.50 per bushel.

POTATOES.—Active at 3c per bushel in car and \$1.01 per bushel out of store. Michigan stock is hardly ripe enough for handling.

APPLES.—The supply of choice fruit was only moderate and such in single bbl. lots moved readily at \$1.75 per bushel. Fair to good stock was plentiful and quoted at \$1.25 per bushel. The bulk of the business was at \$1.00.

PEACHES.—Active and firm at 75c per bushel for Kentucky. Island fruit 50c per bushel. Receipts were light.

CRABAPPLES.—Market dull, with Siberian at 40c per bushel.

BLACKBERRIES.—The supply of sound fruit was light, and 16 quart cases brought \$1.50 per bushel.

HUCKLEBERRIES.—Market easy and supply increasing at 60c per stand.

GRAPES.—Concord selling at \$4.50 per 100 lb. stand.

POULTRY.—Live quoted as follows: Old hens, 5c; fowls, 6c; spring chickens, 10c; ducks, 7c for old, 8c for young; turkeys 10c. Receipts large.

ONIONS.—Dull at \$1.50 per bushel. Stocks large.

VEGETABLES.—Quoted as follows from second hands: Potatoes, 12c; corn, 12c; egg plant, 12c; cabbages, 12c; lettuce, 12c; per 100, cabbage, 1c; egg plant, 1c; beans, 1c; per 100, squash, per c, 40c; 40c; per dozen bunches, 20c; carrots, 20c; celery, per doz, 25c; cauliflower, 1c; 1c; 1c. Michigan cabbage 1c per 100.

TOMATOES.—Fairly active at \$1.75 per bushel, and extra large at \$1.50.

WATERMELONS.—Active at \$1.50 per 100, and extra large at \$1.50.

PEARS.—Bartlett, 5c; 5c; 5c; Belle pears in heavy stock and dull at \$2.25 per bushel; good common fruit brings \$2.50 per bushel.

PLUMS.—Quoted at \$2.25 per variety, per stand.

NUTMEG MELONS.—Quoted at \$3.50 per bushel.

PROVISIONS.—Barrelled pork quiet, with new mess higher, and short clear lower; lard a shade lower; shoulders have advanced, and dried beef hams declined. Quotations are as follows:

Mess, new	10.50	11.25
Family, new	11.00	11.75
Short clear	11.00	11.75
Lard in tierces	6.00	6.50
Lard in kegs	6.00	6.50
Pure lard, in tierces	7.00	7.50
Ham	11.00	11.50
Shoulders	8.00	8.50
Choice bacon	9.00	9.50
Beef, new	7.00	7.50
Plate beef	8.00	8.50
Dried beef	9.00	9.50
Dried beef hams	9.00	9.50

HAY.—The following is a record of the sales at the Michigan Avenue scales for the week up to Friday noon, with price per ton:

Monday.—25 loads: Nine at \$11; five at \$10; two at \$12.50 and \$10; one at \$10; \$10.50, \$12.50 and \$10.

Tuesday.—26 loads: Ten at \$10; five at \$10; four at \$11; three at \$11.50; two at \$10.50 and \$10.50; one at \$11; \$11.50, \$10.50 and \$10.50.

Wednesday.—20 loads: Eight at \$11; seven at \$12; four at \$10; three at \$10.50; one at \$11.50, \$12.50 and \$10.

Thursday.—34 loads: Nine at \$11; five at \$12; four at \$10.50; three at \$11.25, \$10 and \$10; two at \$10; \$11.50, \$11.50 and \$10.

Friday.—14 loads: Three at \$12 and \$11; two at \$10; one at \$12.50, \$11, \$10.50, \$10 and \$10.

LIVE STOCK MARKETS.

King's Yards.

CATTLE.

The market opened up at these yards with 1,402 head of cattle on sale. The drovers struck the worst market they have had in several months. The supply of Michigan cattle was large, and besides these there were 27 loads of westerns amounting to over 80 head. Under the circumstances prices held up well, the decline only amounting to about 20 cents per hundred. There was a demand for some good cattle and buyers would have paid last week's prices for them had they been here. The following were the closing quotations:

Fancy steers well fed	1.00	1.05
Good steers well fed	90c	95c
Choice steers, well fed and well formed	1.00	1.05
Good steers, well fed, weighing 1,200 to 1,500 lbs.	90c	95c
Good mixed butchers' stock—light cows, heifers and light steers	80c	85c
Coarse mixed butchers' stock—light cows, heifers, steers and bulls	70c	75c
Coarse mixed butchers' stock—light cows, heifers, steers and bulls	60c	65c
Coarse mixed butchers' stock—light cows, heifers, steers and bulls	50c	55c
Coarse mixed butchers' stock—light cows, heifers, steers and bulls	40c	45c
Coarse mixed butchers' stock—light cows, heifers, steers and bulls	30c	35c
Coarse mixed butchers' stock—light cows, heifers, steers and bulls	20c	25c
Coarse mixed butchers' stock—light cows, heifers, steers and bulls	10c	15c

At the Michigan Central Yards.

CATTLE.

There was a good supply of cattle at these yards, mostly westerns. The demand was only fair and prices were fairly 20 cents lower than those of last week. At the close of the week were unsold and were shipped out in first hands.

Wetford & Beck sold Stonehouse 46 mixed westerns at \$2.00 and \$1.90 and 11 at \$2.00 and \$1.90.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

Brooks sold McGee 64 mixed westerns at \$2.00 and \$1.90 and 11 at \$2.00 and \$1.90.

Fleischman sold McGee 25 mixed westerns at \$2.00 and \$1.90 and 11 at \$2.00 and \$1.90.

Simmons sold Brooks 5 stockers at \$4.10 and \$4.00.

Dennis sold Caplin 10 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.10.

Gleason sold R Webb 37 at 204 lbs at \$4.20 and 34 at 190 lbs at \$4.10.

Johnson sold R Webb 21 at 200 lbs at \$4.05.

McQuillan sold McGee 4 stockers at \$4.10 and \$4.00.

Allen sold Grant 10 stockers at \$4.10 and \$4.00.

Robb sold Devin 37 at 184 lbs at \$4.10 and 18 at 173 lbs at \$4.